October 21, 2014

Madina Alharazim-Plummer

Program Director (IEPD)

US Navy, Joint Base Anacostia-Bolling Public Works Department

Naval Facilities Engineering Command, Washington

370 Brookley Avenue, SW

Washington, DC 20332

**Re: Permit Nos. 6745, 6746, and 6747 to Construct and Operate Three Boilers at Joint Base Anacostia-Bolling, Building 18**

Dear Ms. Alharazim-Plummer:

Pursuant to sections 200.1 and 200.2 of Title 20 of the District of Columbia Municipal Regulations (20 DCMR), a permit from the District Department of the Environment (the Department) shall be obtained before any person may construct and operate a stationary source in the District of Columbia. The application of the US Navy, Joint Base Anacostia-Bolling (JBAB) Public Work Department (the Permittee) to construct and operate the equipment in the following table at the Permittee’s facility located at 370 Brookley Avenue SW, Washington, DC per the submitted plans and specifications, received November 1, 2013, and additional corrected potential emissions information received June 12, 2014 is hereby approved, subject to the following conditions:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Equipment Location** | **Equipment Size**  **(MMBTU/hr heat input)** | | **Manufacturer/Model Number** | **Emission Unit No.** | **Permit No.** |
| **Natural Gas** | **No. 2 Fuel Oil** |
| JBAB Building 18 | 30.25 | 28.8 | Indeck International-Lamont (IBW), TJW-C25 | Boiler 1 | 6745 |
| JBAB Building 18 | 30.25 | 28.8 | Indeck International-Lamont (IBW), TJW-C25 | Boiler 2 | 6746 |
| JBAB Building 18 | 30.25 | 28.8 | Indeck International-Lamont (IBW), TJW-C25 | Boiler 3 | 6747\* |

*\*Note that the Boiler 3 installation being approved is not a full new installation, but rather installation of an economizer and replacement burners.*

1. General Requirements:
   1. The boilers shall be constructed and operated in compliance with the applicable air pollution control requirements of 20 DCMR.

b. These permits expire on October 20, 2019 (20 DCMR 200.4). If continued operation after this date is desired, the owner or operator shall submit an application for renewal by July 20, 2019.

c. Construction or operation of equipment under the authority of these permits shall be considered acceptance of their terms and conditions.

d. The Permittee shall allow authorized officials of the District, upon presentation of identification, to:

1. Enter upon the Permittee’s premises where a source or emission unit is located, an emissions related activity is conducted, or where records required by this permit are kept;

2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit;

3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor, at reasonable times, any substance or parameter for the purpose of assuring compliance with this permit or any applicable requirement.

e. This set of permits shall be kept on the premises and produced upon request.

f. Failure to comply with the provisions of these permits may be grounds for suspension or revocation. [20 DCMR 202.2]

g. Within sixty (60) days of issuance of a permit to operate, the Permittee shall submit a complete application or application update to modify the facility’s Title V operating permit to include the requirements of this set of permits [20 DCMR 301.1(a)(3)].

1. Emissions Limitation:

a. Each of the three boilers shall not emit pollutants in excess of those specified in the following tables [20 DCMR 201]:

| **Boiler Emission Limits** | | | |
| --- | --- | --- | --- |
| **Pollutant** | **Each Boiler Individually** | | **Total Combined Annual Emissions Limit From the Three Boilers**  **(ton/yr)** |
| **Short-Term Limit**  **(Natural Gas) (lb/hr)** | **Short-Term Limit**  **(#2 Fuel Oil) (lb/hr)** |
| Carbon Monoxide (CO) | 1.119 | 1.094 | 7.763 |
| Oxides of Nitrogen (NOx) | 0.877 | 3.456 | 23.971 |
| Total Particulate Matter (PM Total)\* | 0.145 | 0.412 | 2.857 |
| Volatile Organic Compounds (VOC) | 0.091 | 1.094 | 7.591 |
| Oxides of Sulfur (SOx) | 0.015 | 0.091 | 0.629 |

\*PM Total includes both filterable and condensable fractions.

b. Total suspended particulate matter emissions from each of the boilers shall not be greater than 0.08 pounds per million BTU. [20 DCMR 600.1].

c. Visible emissions shall not be emitted from these units except that discharges not exceeding 40% opacity (unaveraged) shall be permitted for two (2) minutes in any sixty (60) minutes period and for an aggregate of twelve (12) minutes in any twenty-four (24) hours period during start-up, cleaning, adjustment of combustion controls, or malfunction of the equipment. [20 DCMR 606.1].

d. In addition to the requirements of Condition II(c), no greater than 20% opacity shall be permitted except for one six minute period per hour of not more than 27% opacity when burning No. 2 fuel oil. [40 CFR Subpart Dc, 60.43c(c) and 20 DCMR 205]

e. An emission into the atmosphere of odorous or other air pollutants from any source in any quantity and of any characteristic, and duration which is, or likely to be injurious to the public health or welfare, or which interferes with the reasonable enjoyment of life and property is prohibited. [20 DCMR 903.1]

f. Emissions shall not exceed those achieved with the performance of annual combustion adjustments on each boiler. To show compliance with this condition, the Permittee shall, each calendar year, perform adjustments of the combustion processes of the boilers with the following characteristics [20 DCMR 805.5(a) and 805.8(a) and (b)]:

1. Inspection, adjustment, cleaning or replacement of fuel burning equipment, including the burners and moving parts necessary for proper operation as specified by the manufacturer;

2. Inspection of the flame pattern or characteristics and adjustments necessary to minimize total emissions of NOx and, to the extent practicable, minimize emissions of CO;

3. Inspection of the air-to-fuel ratio control system and adjustments necessary to ensure proper calibration and operation as specified by the manufacturer; and

4. Adjustments shall be made such that the maximum emission rate for any contaminant does not exceed the maximum allowable emission rate as set forth in this section.

III. Operational Limitations:

* 1. Natural gas shall be used as the primary fuel in the boilers covered by this permit document. No. 2 fuel oil shall be used only during periods of natural gas interruptions and curtailment (including those implemented by the gas utility as part of an interruptible gas supply contract), startups, or periodic testing on No. 2 fuel oil. Periodic testing of No. 2 fuel oil shall not exceed a combined total of 48 hours during any calendar year for any individual boiler. No other fuels are approved for use.

b. The alternative No. 2 fuel oil burned in the boilers shall contain no greater than 0.05 weight percent sulfur. [20 DCMR 205.1, 20 DCMR 801.1, 20 DCMR 201 and 40 CFR 60.42c(d) ] *Note that this is a streamlined permit requirement. The permit application requested a limit more stringent than those found in 40 CFR 60.42c(d) and 20 DCMR 801.1, therefore compliance with this requirement established pursuant to 20 DCMR 201 will also show compliance with the other listed requirements.*

c. This approval is valid for the specific activity cited in the application submitted to this office. Any deviation from the specific activity or method of operation is a violation of the permit.

d. No more than two of these boilers shall operate at any given time.

e. Total operations of these boilers, in aggregate, shall not exceed 13,872 hours in any given 12-month rolling period. Standby or warm-up of any of these three boilers is considered to be operation mode and the time in such a state shall be counted toward the 13,872 hour limit. Any exceedance of this limit may be considered a violation of 20 DCMR 204 as this limit was taken to avoid applicability of that regulation.

f. The boilers shall be operated at all times in a manner consistent with the applicable manufacturer’s specifications for the units.

g. At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the units in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

1. Monitoring and Testing Requirements

a. The Permittee shall monitor the operation of the boilers in a manner consistent with a good preventive maintenance program.

b. The Permittee shall monitor the type and amount of fuel burned in the boilers.

c. The Permittee shall monitor the stack outlets and identify any visible emissions to ensure that if they occur, the problem is identified and repaired.

d. At least once per month when operating on natural gas and once per week when operating on No. 2 fuel oil, during operation of the equipment, the Permittee shall observe each stack for a period of at least three minutes. Such visible emissions observations need not be performed in accordance with Reference Method 9, but may instead be only observations for the presence or absence of visible emissions (similar to the procedures set forth in EPA Reference Method 22). If any unit is not used during a given month, this shall be so noted and such records shall be maintained in accordance with Condition V(c).

If visible emissions are observed by this monitoring, or at any other time, the Permittee shall either shut the process down and make the necessary repairs/adjustments to correct the cause of the visible emissions or shall make arrangements for prompt observation by an individual certified in accordance with EPA Reference Method 9 to determine compliance with Condition II(c) and (d).

e. Regardless of whether or not emissions are observed pursuant to Condition IV(d) of this permit, the Permittee shall conduct a minimum of one visible emissions test of each boiler each calendar year for each fuel burned since the last visible emissions test required by this condition or Condition IV(g). If the only combustion of No. 2 fuel oil burned in a given boiler since the last test was burned during periodic testing or combustion adjustments required by this permit, no visible emission test for that fuel will be required under this condition. Such a test program shall consist of a minimum of 30 minutes of opacity observations of each boiler firing each fuel and shall be performed by a person certified in accordance with EPA Reference Method 9 (40 CFR 60, Appendix A).

f. To show compliance with Condition III(b), the Permittee shall sample and test the fuel oil burned in its fuel burning equipment at least once each calendar quarter or at the time of each fuel delivery, whichever is less frequent. For each sample, the Permittee must provide [20 DCMR 502]:

* + 1. The fuel oil type and the ASTM method used to determine the type (see the definition of distillate oil in 40 CFR 60.41c for appropriate ASTM methods);
    2. The weight percent sulfur of the fuel oil as determined using ASTM test method D-4294 or D-5453 or other method approved by the Department;
    3. The date and time the sample was taken;
    4. The name, address, and telephone number of the laboratory that analyzed the sample; and
    5. The type of test or test method performed.

In lieu of sampling and testing fuel oil for each of these data, the Permittee may obtain any or all of these data from the fuel oil supplier at the time of delivery and maintain documentation of fuel receipts and fuel supplier certifications for all fuel deliveries that provide all of the above quality of fuel data (or those for which sampling and testing was not performed at the time of delivery) as well as the name of the fuel oil supplier, the date of delivery, and the sulfur content of the oil.

Note that the sulfur content data obtained from the fuel supplier must be the results of specific tests of the fuel at hand or the most recent representative fuel analysis from the fuel terminal prior to the fuel supplier obtaining the fuel for delivery to the Permittee, if such terminal analyses are performed on at least a monthly basis. General fuel specifications are not acceptable for this datum.

Terminal specifications (with references to appropriate ASTM methods as defined above) may be used to document the fuel oil type if the fuel supplier provides written certification that this was the material purchased from the terminal and delivered to the facility. If this method of determining the fuel oil type is used, the Department may opt to require occasional supplemental sampling and testing of the fuel oil to confirm these certifications.

If any of these data cannot be obtained from the fuel supplier, it is the responsibility of the Permittee to sample the fuel and have it analyzed to obtain the required data.

g. Within 180 days of issuance of these permits, the Permittee shall conduct performance tests on the three boilers to determine compliance with Conditions II(a), (b), (c), and (d) (except VOC and SOx), for both allowable fuels, and shall furnish the District with a written report of the results of such performance tests in accordance with the following requirements [20 DCMR 502]:

1. One (1) original and one (1) copy of the test protocol shall be submitted to the following address a minimum of thirty (30) days in advance of the proposed test date. The test shall be conducted in accordance with Federal and District requirements.

Chief, Compliance and Enforcement Branch

Air Quality Division

1200 First Street NE, 5th Floor

Washington, DC 20002

2. The test protocol shall be approved by the District prior to initiating any testing. Upon approval of the test protocol, the Company shall finalize the test date with the assigned inspector in the Compliance and Enforcement Branch. The District must have the opportunity to observe the test for the results to be considered for acceptance.

3. The final results of the testing shall be submitted to the Department within sixty (60) days of the test completion. One (1) original and one (1) copy of the test report shall be submitted to the address in Condition IV(g) (1) above.

4. The final report of the results shall include the emissions test report (including raw data from the test) as well as a summary of the test results and a statement of compliance or non-compliance with permit conditions to be considered valid. The summary of results and statement of compliance or non-compliance shall contain the following information:

A. A statement that the owner or operator has reviewed the report from the emissions testing firm and agrees with the findings.

B. Permit number(s) and condition(s) which are the basis for the compliance evaluation.

C. Summary of results with respect to each permit condition.

D. Statement of compliance or non-compliance with each permit condition.

5. The results must demonstrate to the District’s satisfaction that the emission unit is operating in compliance with the applicable regulations and conditions of this permit; if the final report of the test results shows non-compliance the owner or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action.

h. The Permittee shall conduct and allow the Department access to conduct tests of air pollution emissions from any source as requested. [20 DCMR 502.1]

1. Recordkeeping and Reporting Requirements:

The following information shall be recorded and maintained in a log at the facility for a period not less than five (5) years [20 DCMR 301.2(c)(2)(B) and 20 DCMR 500.8]:

* 1. The Permittee shall keep records of fuel use for each boiler, showing therms or standard cubic feet of natural gas combusted each month as well as gallons of No. 2 fuel oil combusted each month. These records shall be kept as a 12-month rolling sum. These records shall be submitted to the Department semi-annually to coincide with the semi-annual and annual reports required by Title V permits 003 and 011.
  2. The Permittee shall keep records of dates, times, and duration of operation of each boiler whenever No. 2 fuel oil is combusted. In addition, the Permittee shall keep records of the reason for each use of No. 2 fuel oil. The duration of each instance shall be kept in a 12-month rolling sum format to show compliance with Condition III(e).
  3. The Permittee shall keep records of the dates and duration of No. 2 fuel use for each boiler each calendar year during periodic testing to show compliance with Condition III(a).

d. The Permittee shall keep records of all maintenance performed on the emission unit so as to document compliance with Conditions III(f) and (g). These records shall be initialed to attest to their accuracy.

e. The Permittee shall keep records of the results of all visible emissions monitoring performed pursuant to Condition IV(d) including notes indicating when no observations were performed as a result of no operations of a given boiler that month. These records shall be maintained in an organized fashion, shall include the identity of the person performing the monitoring, and shall be readily available for inspection by the District.

f. The Permittee shall keep records of the results of all Method 9 visible emissions testing performed pursuant to Conditions IV(d), (e), and (g). These records shall also include the identity of the person performing the visible emissions testing and documentation of his/her Method 9 certification. These records shall include documentation indicating whether the results show compliance with Condition II(c).

g. The Permittee shall keep records of the following information regarding the combustion adjustments required pursuant to Condition II(f): [20 DCMR 805.8(c)]

1. The date on which the combustion process was last adjusted;

2. The name, title, and affiliation of the person who made the adjustments;

3. The NOx emission rate, in ppmvd, after the adjustments were made;

4. The CO emission rate, in ppmvd, after the adjustments were made;

5. The CO2 concentration, in percent (%) by volume dry basis, after the adjustments were made;

6. The O2 concentration, in percent (%) by volume dry basis, after the adjustments were made; and

7. Any other information the Department may require.

h. The Permittee shall keep records of the results of all testing performed pursuant to Condition IV(g) and (h).

i. The Permittee shall immediately contact the Air Quality Division’s Compliance and Enforcement Branch upon becoming aware of a sudden equipment failure or emergency or emissions in excess of any emission limit.

j. The Permittee shall report the fuel usage and the quantities of emissions of pollutants listed in Condition II(a) from the boilers to the Air Quality Division semi-annually coincident with the semi-annual and annual reports required by Title V permits 003 and 011. [20 DCMR 500.9 and 20 DCMR 302.1(c)(3)(A) and (B)]

k. In addition to complying with Condition V(h) and any other reporting requirements mandated by the District of Columbia, the owner or operator shall, within thirty (30) calendar days of becoming aware of any occurrence of excess emissions, supply the Department of the Environment in writing with the following information:

* + 1. The name and location of the facility;
    2. The subject source(s) that failed, experienced the emergency, or caused the excess emissions;
    3. The time and date of the first observation of the equipment failure, emergency, or excess emissions;
    4. The cause and estimate/expected duration of the excess emissions (if applicable); and
    5. The proposed corrective actions and schedule to correct the conditions causing the emergency or excess emissions.

l. The Permittee shall submit the results of all testing required by Conditions IV(g) and (h) as specified in Condition IV(g), except that the Department may specify and require different submittal procedures to be followed in cases of testing required pursuant to Condition IV(h).

If you have any questions, please call me at (202) 535-1747 or Abraham T. Hagos at (202) 535-1354.

Sincerely,

Stephen S. Ours, P.E.

Chief, Permitting Branch

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